EWA for Salmon:

Goals, Objectives, Conceptual Models, Performance Measure Criteria and Relevant Analyses Plan (4/30/03)

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WHY?

- Develop priority analyses needs list related to EWA salmon goals and objectives

-Develop conceptual model to determine relative importance of EWA objectives and actions

- Develop performance measure criteria to assess progress towards primary program goals and objectives

Definitely a work in progress :

- Still determining how to do some of the analyses

- Still determining who will do parts of it

- Conceptual models need to be developed

- Takes lots of time to complete all we have identified

- Potentially the data doesn’t exist to do some of the analyses

- We likely do not have a complete list of what is needed and may have included things that aren’t fruitful

Goals:

- Determine effective and efficient methods to implement existing regulatory requirements (Take, DCC closures and export management)

- Determine if minimizing take and maximizing survival through the Delta provides the greatest population benefits relative to other uses of EWA water

- Put Benefits of EWA Actions into perspective relative to other potential actions.

Objectives:

- Avoid take levels and minimize take

- Maximize survival through the Delta

- Use EWA Water to maximize population benefits

- Take the most effective actions to protect the population

Develop Conceptual Models to address:

How would minimizing take improve survival in the Delta and in the population?

How would maximizing survival through the Delta by managing the DCC and exports affect populations?

What are the most limiting factors that EWA water could address?

How do population benefits of EWA actions compare to other actions?

Objective: Avoid take levels and minimize take

Performance Measure Criteria:

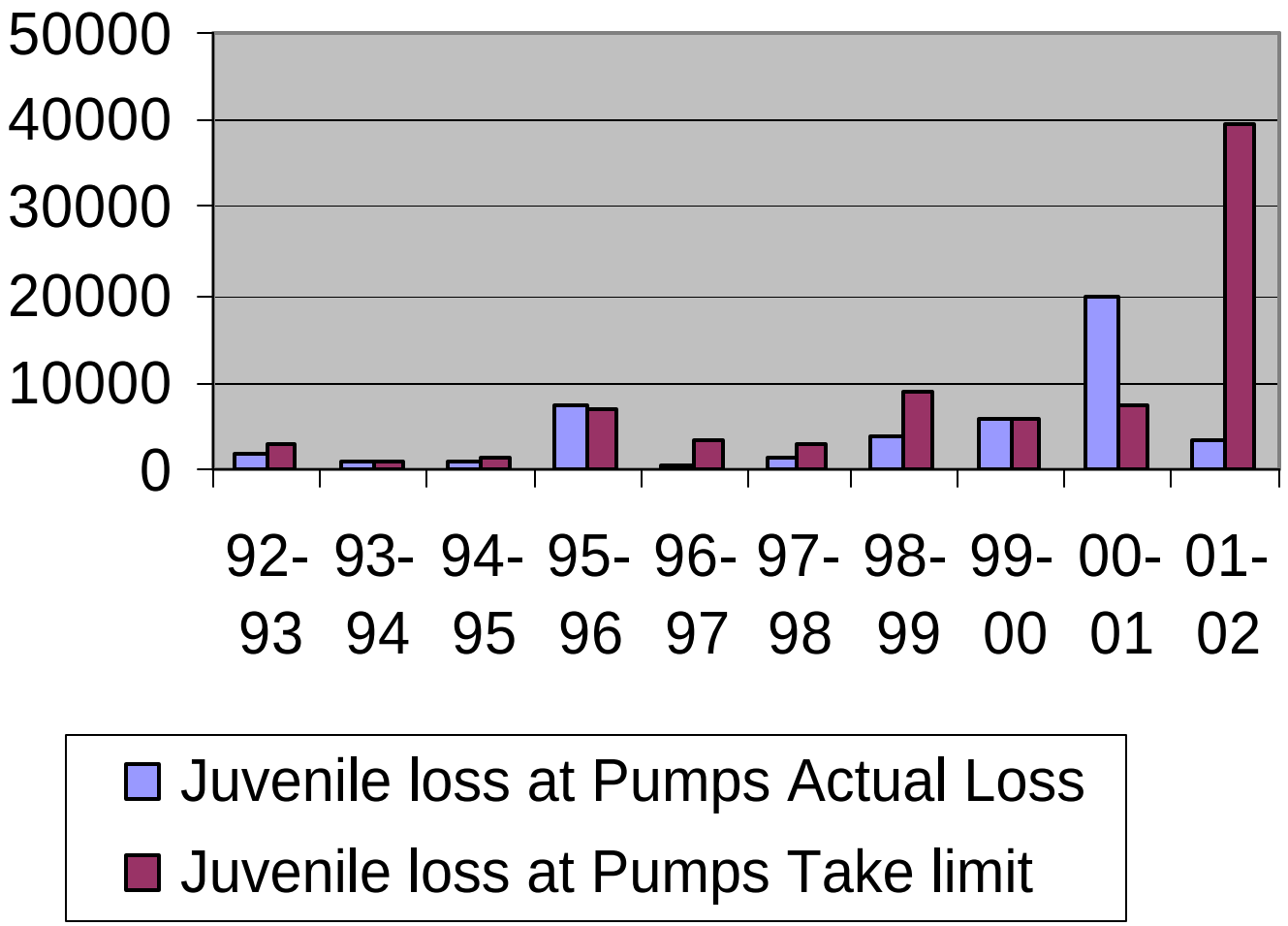
-Did we avoid “yellow and red light” take levels?

- Did we take actions at the appropriate time?

- Did the decision process lead to the appropriate actions?

Winter-run Take at Delta Pumps

Performance Measure



Objective: Maximize survival through the Delta

Performance Measure Criteria:

- **Did we improve survival in the Delta? (By how much?)**

Objective: Use EWA Water to maximize its population benefits

Performance Measure Criteria:

- **Did we get the greatest relative population benefit from using EWA water?**

Objective: Take the most effective actions to protect the population

Performance Measure Criteria:

- How did EWA benefits compare to other potential actions?

- What were the combined benefits with and without EWA?

Analyses Plan:

(Avoid exceeding take and minimize take)

- Improve loss estimates

- Incorporate genetics into run separation

-Continue refinement of NMFS JPE

- Analyze loss trends

- Document and evaluate basis of decision processes

- Review analyses on factors influencing take or episodes of take

Analyses Plan:

(Maximizing survival through the Delta (export and DCC management))

- Determine optimal export curtailments in time and magnitude

- Determine optimal timing for DCC gate operations

-Determine passage to assess benefits and for prediction

Analyses Plan:
(Best use of EWA water)

- How else could we use EWA water to benefit the population?

Assess benefits of present use compared to other alternatives.

- spawning attraction flows
- during juvenile outmigration from rivers
- minimize flow fluctuations for eggs/fry
- maintain water temperature

Need to put into equivalent measurements for comparisons

Analyses Plan:

(EWA versus (or in addition to) other actions

- Evaluate the use of population or lifestage models for assessing EWA benefits relative to other actions within or between lifestages (Existing and New)

-Determine factors affecting

- in-river survival (by race and lifestage)
- Delta survival (by race and lifestage)
- ocean survival
- adult immigration success
- spawning success

Where do we go from here?

-Continue doing analyses as identified (and get help from others)

- Support monitoring and research that will define critical relationships

- Find financial resources to support statistician and modeler